

In re Patent Application of:  
JIANG ET AL.  
Serial No. 09/816,319  
Filed: MARCH 22, 2001

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IN THE CLAIMS

Claims 1 to 8 (cancelled)

9. (currently amended) The fiber optic module of claim 92 wherein, the first daughterboard printed circuit board further comprises: a ground plane on a backside thereof to reduce electro-magnetic interference (EMI) and crosstalk between fields generated by the first and second optoelectronic devices electrical components.

10. (currently amended) The fiber optic module of claim 92 wherein, the second daughterboard printed circuit board further comprises: a ground plane on a backside thereof to reduce electro-magnetic interference (EMI) and crosstalk between fields generated by the first and second optoelectronic devices electrical components.

Claims 11 to 24 (cancelled)

25. (currently amended) The fiber optic transceiver of claim 92 wherein, the first daughterboard printed circuit board further comprises:

first electrical components coupled between the first optoelectronic device and the motherboard printed circuit board on a front first side of the first daughterboard printed circuit board, the first electrical components for controlling the first optoelectronic device, and

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a first ground plane coupled to a back ~~second~~ side of the first daughterboard printed circuit board to reduce electro-magnetic interference (EMI) and crosstalk between the first and second daughterboards fields; and, wherein the second daughterboard printed circuit board further comprises:

second electrical components coupled between the second optoelectronic device and the motherboard printed circuit board on a front ~~first~~ side of the second internal printed circuit board, the second electrical components for controlling the second optoelectronic device.

26. (currently amended) The fiber optic transceiver of claim 25 wherein, the second daughterboard printed circuit board further comprises: a second ground plane coupled to a back ~~second~~ side of the second internal printed circuit board to reduce EMI and crosstalk between the first and second daughterboards electro-magnetic fields.

Claims 27 to 83 (cancelled)

84. (currently amended) A fiber optic module for coupling to a host system PCB comprising:  
a housing for shielding the module;  
an optical block having a first opening to receive a first optoelectronic device;  
the first optoelectronic device coupled into the first opening;  
a motherboard printed circuit board coupled to the housing including a connector for coupling to the host system PCB;

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a first daughterboard printed circuit board (PCB) coupled to terminals of the first optoelectronic device in parallel to a first optical axis of the first optoelectronic device, the first daughterboard printed circuit board coupled at a first angle to the motherboard printed circuit board within the housing.

85. (currently amended) The fiber optic module of claim 84 further comprising: a tabs extending from the housing coupled to slots in the motherboard printed circuit board.

86. (original) The fiber optic module of claim 85 wherein, the housing is a shielded housing to encase the first daughterboard printed circuit board to reduce electromagnetic interference (EMI).

87. (original) The fiber optic module of claim 84 wherein, the first angle is substantially ninety degrees so that the first daughterboard printed circuit board is coupled perpendicular to the motherboard printed circuit board.

88. (original) The fiber optic module of claim 84 wherein, the motherboard printed circuit board has a plurality of pins to couple to an external printed circuit board.

89. (currently amended) The fiber optic module of claim 84 wherein, the motherboard printed circuit board has a socket connector to couple to a socket connector of an external printed circuit board.

90. (original) The fiber optic module of claim 84 wherein, the

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first daughterboard printed circuit board has traces coupled to traces of the motherboard printed circuit board.

91. (original) The fiber optic module of claim 90 wherein, the traces of first daughterboard printed circuit board are coupled traces of the motherboard printed circuit board by solder joints.

92. (previously presented) The fiber optic module of claim 84 wherein, the optical block further having a second opening to receive a second optoelectronic device, and wherein the fiber optic module further comprises, a second optoelectronic device coupled into the second opening, and a second daughterboard printed circuit board (PCB) coupled to terminals of the second optoelectronic device in parallel to a second optical axis of the second optoelectronic device, the second daughterboard printed circuit board coupled at a second angle to the motherboard printed circuit board.

93. (original) The fiber optic module of claim 92, wherein the fiber optic module is a fiber optic transceiver and the first optoelectronic device is a transmitter to couple photons into a first optical fiber, and the second optoelectronic device is a receiver to receive photons from a second optical fiber.

94. (currently amended) The fiber optic module of claim 92 further comprising: clips on the a housing coupled to clip openings on the motherboard printed circuit board.

95. (original) The fiber optic module of claim 94 wherein, the housing is a shielded housing to encase the first

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daughterboard printed circuit board to reduce electromagnetic interference (EMI).

96. (original) The fiber optic module of claim 92 wherein, the first angle is substantially ninety degrees so that the first daughterboard printed circuit board is coupled perpendicular to the motherboard printed circuit board.

97. (original) The fiber optic module of claim 96 wherein, the second angle is substantially ninety degrees so that the second daughterboard printed circuit board is coupled perpendicular to the motherboard printed circuit board.

98. (original) The fiber optic module of claim 92 wherein, the motherboard printed circuit board has a plurality of pins to couple to an external printed circuit board.

99. (currently amended) The fiber optic module of claim 92 wherein, the motherboard printed circuit board has a socket connector to couple to a socket connector of an external printed circuit board.

100. (original) The fiber optic module of claim 84 wherein, the first daughterboard printed circuit board has traces coupled to traces of the motherboard printed circuit board, and the second daughterboard printed circuit board has traces coupled to traces of the motherboard printed circuit board.

101. (original) The fiber optic module of claim 90 wherein, the traces of first daughterboard printed circuit board are coupled traces of the motherboard printed circuit board by

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solder joints, and the traces of second daughterboard printed circuit board are coupled traces of the motherboard printed circuit board by solder joints.

102. (previously presented) The fiber optic module of claim 92 further comprising: a housing having an opening at an end coupled to the motherboard printed circuit board.

103. (original) The fiber optic module of claim 102, wherein, the first daughterboard printed circuit board and the second daughterboard printed circuit board each have a connector to couple to a connector of a host system printed circuit board through the opening at the end of the housing.

104. (original) The fiber optic module of claim 92 wherein, the motherboard printed circuit board includes an inner septum to separate the fiber optic module into a first side and a second side.

105. (currently amended) The fiber optic module of claim 104 wherein, the inner septum is a conductive shield to reduce crosstalk and electromagnetic interference between the first and second daughterboards ~~radiation~~.

106. (currently amended) The fiber optic module of claim 92, wherein the further comprising: a housing includes having an inner septum to separate the fiber optic module into a first side and a second side, ~~the housing coupled to the motherboard printed circuit board.~~

107. (original) The fiber optic module of claim 106 wherein,

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the housing is a conductive shielded housing to encase the first daughterboard printed circuit board to reduce electromagnetic interference (EMI) and the septum is a conductive shield to reduce crosstalk electromagnetic radiation.

108. (original) The fiber optic module of claim 92 wherein, the first and second daughterboard printed circuit boards are vertical printed circuit boards and the motherboard printed circuit board is a horizontal motherboard printed circuit board.

Claims 109 to 138 (cancelled)

139. (new) The fiber optic module of claim 92 wherein, the first daughterboard printed circuit board further comprises: a ground plane sandwiched between layers thereof to reduce electro-magnetic interference (EMI) and crosstalk between the first and second daughterboards.